

Appl. No. 10/055,224
Amended. Dated 06/24/04
Reply to Office Action of Mar. 30, 2004

This listing of claims will replace all prior versions, and
listings, of claims in the application:

Listing of Claims:

Claims 1-3 (canceled)

Claim 4 (new): An apparatus for producing a cellulose paper
pulp from a biological mass, the apparatus comprising:

(a) a tower means for sterilizing the biological mass to
form a culture medium;

(b) a first screw means for mixing the culture medium with
an inoculum in a sterile environment to create an inoculated
mass;

(c) a first conditioning and reaction chamber having means
for mixing and handling the inoculated mass in a sterile
environment with a controlled temperature, pH and atmosphere
comprising CO₂ and O₂, to form an enzyme;

(d) a hydraulic pulper having means for elementarizing the

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inoculated mass and soaking the inoculated mass with an enzyme extracting fluid to form a suspension;

(c) a hammer mill means for elementarizing a vegetative material, breaking up stem knots of the vegetative material, pulverizing leaves of the vegetative material and detaching bark from wood of the vegetative material;

(f) a rotating tumbler means for separating a various fraction of the vegetative material wherein said rotating tumbler means comprises a reel and a counter reel;

(g) a rotor compactor means for reducing a volume of the vegetative mass and removing a majority of air contained in the vegetative mass to form a compacted vegetative mass;

(h) a second screw means for mixing the compacted vegetative mass with water and an extract containing the enzyme in a sterile environment;

(i) a second conditioning and reaction chamber having means for mixing and handling a mixture of the vegetative mass and the

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extract containing the enzyme in a sterile environment with a controlled temperature, pH and atmosphere comprising CO₂ and O₂ to form a second conditioned and reacted vegetative mass; and

(j) an apparatus means for bleaching the second conditioned and reacted vegetative mass and for disposing of a refluxant.

Claim 5 (new): The apparatus of claim 4, wherein at least one of said first screw means and said second screw means further comprises:

(a) a hollow coil means for internally circulating a thermostatic fluid;

(b) a sensor means for controlling an instrument; and

(c) a means for homogeneously distributing a suitable pH corrective and additive.

Claim 6 (new): The apparatus according to claim 1, wherein said first and second conditioning and reaction chambers further comprise:

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(a) a tilting axis screw means for controlling a reaction progress and speed, keeping a reaction mass in constant movement and controlling a duration time of the reaction mass in the chamber, wherein said tilting axis screw means has an adjustable tilt angle rotation speed and transverse speed; and

(b) a bridge crane means for translating said tilting axis screw means along a surface of the chamber.